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United States Department of Agriculture,

BUREAU OF ANIMAL INDUSTRY.

RABIES IN THE DISTRICT OF COLUMBIA.

By D. E. SALMON, D. V. M.,
Chief of the Bureau of Animal Industry.

EXPLANATORY STATEMENT.

There is submitted herewith the substance of an article upon the reality of rabies which was prepared for publication in the Washington Post. An unusual outbreak of this disease has been in progress since October, 1899, among the dogs of the District of Columbia; a considerable number of persons has been badly bitten by affected dogs, and the propagation of the plague has not yet been arrested. Thirteen children and four men have been reported to this Bureau as having been bitten in the District of Columbia, and four children as having been bitten in adjoining districts of Maryland and Virginia, making in all twenty-one persons who have been bitten to this time (April 25). Thanks to the Pasteur treatment, which nearly or quite all of the bitten persons have taken, there have not yet been any deaths from hydrophobia among human beings. There has, however, been much suffering from deep and lacerated wounds, from cauterization, and from the preventive vaccinations, and there has been great hardship and distress brought upon the families of the bitten persons.

Notwithstanding these facts, there has been much opposition manifested by a considerable number of citizens to the measures adopted by the District authorities for controlling this outbreak of one of the most fatal and horrible diseases known. This opposition has been fostered and encouraged by some of the local newspapers which have persistently argued that there is no such disease as rabies. These papers have reiterated the misleading statement that most of the eminent medical authorities deny the existence of this disease, and have alleged that the report of the disease is simply a scare deliberately originated by scientists for the purpose of adding to their reputations. While it appears to those who know the facts that these arguments are too silly to have much effect in an enlightened community, it is nevertheless evident that they have had much influence in convincing persons owning highly prized dogs that they are victims of official injustice or incompetency, and the natural result has been opposition to the regulations and threatened violence toward those whose duty it is to carry these regulations into effect.

The writer, as Chief of the United States Bureau of Animal Industry and having under his direction the laboratory in which the tests of the disease have been made, has felt it his duty to present the facts to the citizens of this District, every one of whom should be just as much interested as he is to have this danger abated. As the Washington Post has been one of the principal champions of the persons who deny the existence of rabies, an effort was made to show the fallacy of its arguments by letters contributed directly to its columns. Two letters were courteously published

in full under dates of December 31 and January 8. Subsequent editorial arguments were based on different grounds. These arguments were met in a later letter, which was declined, "as the Post regrets exceedingly that the space at its disposal at the present time will not permit of the publication of your communication." Believing that the people of this community desire to know the truth, and that knowing it they will encourage and assist the authorities in eradicating this fatal contagion, the publication of this communication as a Department circular is recommended.

Very respectfully,

D. E. SALMON,

Chief of the Bureau of Animal Industry.

Approved:

JAMES WILSON, *Secretary of Agriculture.*

WASHINGTON, D. C., April 30, 1900.

THE REALITY OF RABIES.

Let us first inquire if it is correct, as contended by the Post, "that hydrophobia is the product of a diseased mind, stimulated by the vaporings of quacks and humbugs," and that nearly every eminent scientist is on record as not believing in its existence. To obtain some information on this point, the writer first examined into the official statements of those Governments which represent the nations conspicuous for their advanced position in scientific investigation and the development of knowledge. He finds that Great Britain, Germany, France, Norway and Sweden, Belgium, Holland, Denmark, Austria, Hungary, Bulgaria, Servia, Roumania, Bosnia and Herzegovina, Switzerland, and Italy officially recognize the existence of rabies. Is it reasonable to suppose that the sanitary affairs of all these countries are in the hands of "quacks and humbugs"?

Further, it would appear that the teachings of the veterinary schools of the world should be accepted as worthy of some consideration in discussing a question of this character. These institutions have since their organization been the fountain of knowledge and the most active centers of investigations with reference to the diseases of animals. The writer has had exceptional opportunities of securing information on this subject, and he does not know of a single veterinary school where any doubt is expressed as to the existence of this disease. He knows, either from personal observation or recorded evidence, that the existence of rabies is recognized and that lectures upon the disease are given at the veterinary schools of Alfort (Paris), Lyons, Toulouse, Berlin, Copenhagen, London, Vienna, Munich, Hanover, Dresden, Turin, Stuttgart, the Veterinary Institute of the University of Leipzig, the veterinary department of Harvard University, the New York Veterinary College at Cornell University, the New York American Veterinary College, the veterinary department of the University of Pennsylvania, the Chicago Veterinary College, the McKillip Veterinary College, of Chicago, the Ontario Veterinary College, of Toronto, and

the Kansas City Veterinary College. These are unquestionably the principal veterinary institutions of the world.

Next take the veterinary literature of the world, and what recent treatise is there having any scientific recognition that denies the existence of rabies? Examine the monumental French work, the *Nouveau Dictionnaire Pratique de Médecine, de Chirurgie et d'Hygiène Vétérinaire*, in twenty-two volumes, which the veterinary profession of France has labored for nearly half a century to complete; or the classical German treatise of Friedberger and Fröhner, which has probably been translated into more languages and is more widely used as a text-book than any similar work ever written; or the writings of such eminent English veterinarians as Fleming and Williams. In all of these rabies is recognized and described without so much as a shadow of doubt being cast upon its existence.

Then consider that the American Veterinary Medical Association, the national organization of the veterinarians of the United States and Canada, has twice within a few years adopted resolutions calling attention to the frequency of rabies, and that the International Veterinary Congress, the accepted authority of the world on animal diseases, has included this among the animal plagues requiring sanitary regulations, and it is incontestable that those who have made a specialty of the diseases of animals and who should know whether rabies exists or not have put themselves on record individually and collectively to the effect that it does exist.

The medical profession has not had the same opportunity to study rabies that is afforded the veterinarian, for the reason that there are many cases with animals for every case in man, as is shown by the statistics of those countries which have given careful attention to the subject (Germany, for example); doubtless for this reason there is more uncertainty and skepticism to be found in the writings of physicians. That the gentlemen who deny the existence of rabies are more in evidence by their volubility than by their numbers appears clear, however, from an examination of recent medical treatises, and particularly those used as text-books in the medical schools. The writer has had examined 14 of such works, taken at random, titles of which will be given, if desired. Twelve of these treat of hydrophobia as of other diseases. Several point out the differences between hydrophobia and spurious hydrophobia, or lyssophobia. One volume, a treatise on mental diseases, does not mention hydrophobia. On the whole, the evidence from the medical text-books proves that the medical profession holds overwhelmingly to the view that there is such a disease as rabies.

As a final link in this chain of evidence, consider the opinions of the scientific investigators—the men who have seen the disease and experimented with it—Louis Pasteur, who stands preeminent among the

investigators of the century and whose method of vaccination for the prevention of rabies has been adopted throughout the civilized world, Henri Bouley, Renault, Rey, Chauveau, Galtier, Nocard, Roux, Zinke, Gruner, Hertwig, Bollinger, Siedamgrotzky, Virchow, Babes, Peronito, Centanni, Celli, Tizzoni. It is useless to multiply names, but these men stand so high as scientists that they can not be characterized as "quacks and humbugs" without reflecting upon the discretion, knowledge, and good faith of the person who makes such an insinuation.

Briefly, then, we have these facts: (1) The governments of nearly all the countries occupying the front rank in knowledge and civilization officially recognize the existence of rabies. (2) All of the great veterinary schools of the world recognize the existence of rabies. (3) All of the recent and important treatises on veterinary medicine recognize the existence of rabies. (4) The International Veterinary Congress recognizes the existence of rabies. (5) The American Veterinary Medical Association recognizes the existence of rabies. (6) Most of the text-books on human medicine recognize the existence of rabies.

Opposed to this there is the view taken by the Post, in its editorial of January 10, entitled "Science and hydrophobia." This editorial purports to be based upon "An open letter to editors on the subject of hydrophobia as a simulated disease." It is not stated by whom this "open letter" was signed, but if the editorial gives a fair presentation of the argument—and there is every reason to believe that it does—then the object of the communication was to demonstrate the nonexistence of rabies by citing "the utterances of a large number (nine, to be exact) of the most distinguished scientists in this country, not one of whom has ever seen a case of hydrophobia." The writer of the open letter, whoever he or she may have been, apparently did not take the trouble to inquire whether there might not be an equal or greater number "of the most distinguished scientists in the country" who had actually seen cases of this disease. From the standpoint of a certain school of philosophy, the evidence of a "distinguished scientist" who has not seen the thing upon which he pretends to be an authority may be of as much, and possibly of more, value than that of another scientist equally distinguished who actually has seen it. Ordinarily, however, we do not regard the evidence of the man who has never seen a thing as quite equal to the evidence of the man who has seen it. It is not the testimony of the hundreds of witnesses who did not see a murder committed which decides the case, but it is that of the two or three persons who did see it. The writer might assert that he did not believe in the existence of the city of Constantinople because he had on several occasions gazed from the car windows during the entire trip from Washington to New York without discovering any city answering to the description of the Turkish capital. He would not

expect that assertion, even though it were confirmed by any number of fellow-passengers, to be accepted as outweighing the evidence of reliable persons who had looked for Constantinople where it is alleged to exist and who actually succeeded in finding it.

The quotations from the "open letter" show that it contains much of the matter and for the most part cites the same authorities as were given in an article published some years ago in *Our Animal Friends*.¹ With that exquisite logic which is so frequently displayed when this subject is discussed from the metaphysical point of view, the author of this article demonstrates the nonexistence of rabies by quoting even a larger number of eminent gentlemen than were named in the *Post*. He next takes up the Pasteur treatment, endeavors to discredit it as much as possible, and, to make this argument complete, produces evidence to show that the Buisson bath is a better treatment, inasmuch as it is free from the dangers of the Pasteur method and has been used in France and England for the cure of hydrophobia with "invariable success." How the Buisson bath can invariably cure a disease which does not exist he fails to explain. He evidently does not refer to the simulated disease, since he tells us that "The theory is that the *poisonous matter* absorbed into the system *from the bite of a rabid dog* is completely excreted by these baths." Finally, as though realizing that there was a lack of consistency in his material, he tries to harmonize matters by alleging that rabies is one of the rarest of diseases, and he completes this harmonizing process by this statement: "*Yet there is such a disease as rabies*, and since there is no cure for it but death, an animal which is really rabid ought to be killed immediately." Thus, in one sentence he demolishes all the evidence which he had cited at such length to prove, first, that there is no such disease as rabies, and, secondly, that the Buisson bath is a sure cure for it. And yet it is this article, with its contradictions and inconsistencies, which has been the basis of most of the recent literary and philosophical disquisitions which have been published to prove the nonexistence of this common disease.

In the editorial of April 3 the *Post* says: "Far be it from us to allude to the fact that these young gentlemen might easily have enriched themselves in money, as they have already enriched us in wonderful and strange knowledge, by producing and establishing a case of hydrophobia." Perhaps the editor does not remember the advertisement which one of our eminent neurologists caused to be displayed in the columns of the *Post* a few years ago, offering "in the interest of science" \$100 reward for a "case of hydrophobia in either man or dog." If he will turn to the *Post* of February 28, 1897, he will find that the writer proposed to produce cases of this disease, on con-

¹ Rabies and Hydrophobia, John P. Haines, president of the American Society for the Prevention of Cruelty to Animals.—*Our Animal Friends*, July, 1897.

dition that the nature of the disease in the affected dogs brought forward under the advertisement be determined by a committee to be appointed by the Medical Society of the District of Columbia, and that the reward, if earned, be paid to the Associated Charities of the District of Columbia to be used in benevolent work. One might have supposed that such a proposition would have been hailed with delight by this zealous and enthusiastic devotee of science, who was a member of the society mentioned. So far from this being the case, it is simply astonishing how promptly and completely he lost interest in the subject, withheld his advertisement, and from that time to the present has failed to give the writer an opportunity to place before him the disease for which he had been yearning with such an intensity of spirit.

Does the Post actually know of some person who at this time wishes to enrich either a scientist or a charitable institution as a recompense for the exhibition of a case of rabies in the dog? If so, it will confer a favor on the undersigned by printing the party's full name and address, with the conditions upon which the offer is made. The writer has been searching for some of these wealthy and generous individuals with fully as much zeal as they are alleged to be displaying in their efforts to find a case of hydrophobia, but up to the present his quest has been unsuccessful. He is becoming almost as skeptical of their existence as the Post is of the existence of hydrophobia. In fact, he is reluctantly coming to the conclusion that there is not one of the gentlemen who prate so learnedly about the nonexistence of the disease mentioned who has enough confidence in his opinion to risk a dollar on it. If any money is ostentatiously offered, it will be found to have a "string" so securely attached to it that it could not be secured if a hundred cases of rabies were exhibited every day for a week. If the writer's opinion on this matter is wrong, he is open to conviction, and there doubtless will be someone with sufficient zeal in the cause to come forward and demonstrate that fact to the satisfaction of all interested parties.

There have been sent to the laboratory of the Bureau of Animal Industry, for careful investigation, a certain number of dogs that were suspected of rabies. Not all such cases which have been found in the District have been sent to us, however, and it is therefore impossible to give a statement showing the total number of cases which have occurred here. The number of demonstrated cases of rabies in dogs, by years, is as follows: 1895, 2; 1896, 5; 1897, 3; 1898, 7; 1899, 19; 1900 (to March 31), 15. The progress of the present outbreak is seen from a statement of the cases by months, thus: October, 2; November, 5; December, 8; January, 5; February, 6; March, 4. This is enough to show the existence of the disease and to prove that its discovery is not attended with such tremendous difficulties as certain learned writers would have us believe.

While it is difficult to see how stronger evidence could be expected to prove the existence of rabies as a contagious disease than has been presented above, there are nevertheless persons who, while admitting the existence of the disease, tell us that it is so extremely rare as not to be worthy of any attention. How do they know this? Have they examined the statistics of the world or do they speak from intuition? It is rather a difficult and unreliable method to sit down in an office and by meditation alone to give the number of cases of smallpox, typhoid fever, or pneumonia that have occurred in any city for a given time. It is equally difficult to fix on the number of rabid dogs without seeing and counting them. With rabies as with other diseases, some one must diagnose and report the cases and keep a record of them, or it is impossible to give a positive statement concerning the number. That is what we have been doing at the Department of Agriculture, and the results of the tests have been already given. Let us see if rabies is such a rare disease that these results are improbable.

There are three countries of Europe whose advanced condition as to science and sanitary service is unquestioned and from which the writer happens to have recent statistics. Germany officially states that there were 1,202 cases of rabies of animals (mostly dogs) in the Empire in 1898. That is 24 per 1,000,000 of human population, or equivalent for the District of Columbia to 7.1 cases per annum. The Department of Agriculture's figures for the District, covering the five years from 1895 to 1899, inclusive, give a total of 36 cases, or an annual average of just 7.2 cases. Except for the recent extraordinary outbreak the average would have been much smaller. The four years 1895-1898 averaged only 4.25 cases per annum. In France there were in 1899, according to official documents, 2,374 cases of rabies in animals, or an average of 63 per 1,000,000 of human population. This would be equivalent to 18.6 per annum in the District. In Belgium there were 444 cases of rabies in animals officially reported, or an average of 74 cases per 1,000,000 of human population. This would be equivalent to 22 cases per annum in the District of Columbia. It is not true, therefore, that rabies is such a rare disease as to make improbable the occurrence of the number of cases which have been reported for the District.

The Post is apparently greatly influenced by the alleged fact that "in Constantinople, where dogs prevail in myriads, and where they are subjected to no restraint whatever, hydrophobia is unknown." According to this same expert and logical authority, however, there is no such disease as hydrophobia; consequently hydrophobia does not exist anywhere; consequently it could not exist in Constantinople. It would appear, therefore, that to particularize in regard to Constantinople is a superfluous and unnecessary argument, unless it is admitted that there is such a disease. It actually awakens suspicion that the gentleman is

not sure of his major premise; and if mistaken in the general proposition, that there is no such disease, how much more likely is he to be mistaken in regard to the subordinate question as to the existence of the disease in a distant city from which the reports of animal diseases are meager and unreliable. If it is held that the reports of a bureau of this Government, organized for the study and control of animal diseases, provided with experts, laboratories, and every modern instrument for investigation, do not constitute sufficiently reliable evidence to determine whether the disease exists in Washington, is it not inconsistent to assume its nonexistence in Constantinople on the strength of a mere rumor unsupported by any scientific investigation whatever? Scientific men who have investigated the matter say that rabies has existed among the dogs of Constantinople (see Fleming, Rabies and Hydrophobia; Keirle, Twentieth Century Practice, and Nocard and Leclainche, *Les Maladies Microbiennes*); and whether it exists there at present or not would have no bearing upon the question of its existence in the District of Columbia.

The spread of the disease has not been entirely arrested here by muzzling, partly because too many defiant dog owners allow their animals to run the streets either without any muzzle or with a pretense of a muzzle which is absolutely worthless as a means of preventing the dogs from biting. We have heard much of the annoyance and discomfort of the muzzle to the dog, but it appears not to have occurred to those humane individuals who descant upon this topic that it is some discomfort to a dog to be bitten, chewed up, and lacerated by a vicious individual of its species, whether that individual is or is not rabid. There have been many columns in the Post that simply blazed with eloquence and fervid rhetoric over the hardships and ignominy which have been visited upon the poor, faithful yet abused canines; but who has attempted to portray the mental and physical anguish of the poor little children whose faces and limbs were torn and mangled and who are now undergoing a long and painful treatment to guard against one of the most fatal and horrible of diseases? Who has tried to impress upon the readers of the Post an idea of the distress and anxiety of the parents of these children, and of the hardship which it has been to some of them to provide the money for this prolonged treatment in a distant city? Can it be true that this acute human suffering calls forth no open sympathy in this community, while the slight discomfort to the dogs caused by the muzzle brings such a flood of semihysterical protests and angry demands for the immediate withdrawal of the order? If the people who pretend to represent the dog were true friends of that animal, would they not be willing to have proper measures enforced to guard their pets from such a painful disease as has undoubtedly been propagated in Washington by biting, whether they call it rabies or give it some less objectionable designation?

Rabies is an extremely dangerous contagious disease, communicable by biting and by other methods of inoculation, and is invariably fatal. If there is a disease having these characteristics among the dogs of the District, what is it if it is not rabies? We are told that dogs often have indigestion, fits, and other disorders which may lead inexperienced persons to conclude that they have rabies. Admitting this contention, the force of the argument is derived from the assumption that dogs having such ordinary complaints are not dangerous and can not communicate a fatal disease by biting. If this were not true, dogs with these common complaints would be as dangerous as though afflicted with rabies. If, on the other hand, it is true, then consistency demands that where it is demonstrated that the dogs have a fatal disease communicable by biting or inoculation, this disease be accepted as rabies.

A few letters are appended from experts whose positions are a guaranty of their competency, and also of their opportunities to see and study the diseases of animals. These communications were received in response to the following letter of inquiry:

U. S. DEPARTMENT OF AGRICULTURE,
BUREAU OF ANIMAL INDUSTRY,
Washington, D. C., —.

DEAR SIR: There is at present in this city an outbreak of a disease among dogs which has been officially pronounced to be rabies. Some of our newspapers and a number of citizens assert that there is no such disease as rabies, and that the most eminent authorities on the subject do not believe in the existence of this disease. I wish to establish the views of scientific men by written evidence. Will you therefore kindly write me, giving answers to the following questions?

First: Does your school teach that there is such a disease as rabies?

Second: Have any cases of rabies ever been brought to your school?

Third: How many cases of rabies are recorded at your school?

Fourth: Have you observed or do you know of any cases of rabies in man?

An early reply would be much appreciated.

Very respectfully,

D. E. SALMON,
Chief of Bureau.

[From Prof. James Law, director New York State Veterinary College.]

ITHACA, N. Y., April 6, 1900.

DEAR SIR: In answer to yours of the 4th instant I would state:

First. That this school teaches most emphatically the existence of rabies.

Second. This particular locality has never, to my knowledge, since 1868 furnished a single case of *casual* rabies. It has, however, been repeatedly sent to us from different parts of the State (Chatham, Saratoga, Buffalo, etc.) in the form of brains of the diseased animals, from which small animals were experimentally inoculated and the disease produced, so as to confirm the original diagnosis or suspicion.

Fourth. I know of the case of Neil, the keeper of the dog pound at Newark, N. J., who died of rabies consequent on the bite of a rabid dog. I brought a portion of his medulla to Ithaca and inoculated a dog and a number of rabbits, some on the brain and others subcutaneously, with the result that all showed rabies after the customary periods of incubation. I have the best of evidence of a number of men who contracted rabies after the bite and from whom (saliva or brain) inoculation of the disease was successfully made on the lower animals to prove its infective character.

On the other hand, I know of a number of cases in which people who had been bitten by dogs have developed symptoms of hydrophobia as the simple result of fear, mimicking the symptoms as near as their knowledge of the disease would guide them. One such case here in Ithaca, where the actual disease has never been outside of the laboratory, I had the satisfaction of saving from a horrible death, after the paroxysms had reached a frequency of one every half hour. The unreal nature of such fanciful cases is not, however, any disproof of the actual infections in which the virulent saliva or brain of the human victim has produced rabies in the lower animals in a continuous series, though they can have no apprehension of such a result. The person who denies the real because there exists a counterfeit is in this case an exceedingly dangerous person, about as much in need of seclusion as the rabid dog itself. The disease prevails at present in Erie County, N. Y.

[From Prof. Charles P. Lyman, dean of the veterinary department of Harvard University.]

Boston, April 6, 1900.

DEAR SIR: I have yours of April 3 in relation to rabies among dogs. I am surprised that at this date men who call themselves intelligent in matters of this kind should for a moment doubt the existence of this disorder and that it is *communicable* by inoculation, by bite, or otherwise from a diseased dog to other warm-blooded animals, men included; and I am sure that if those holding that belief had witnessed, as I have done, its communication to men, to horses, to cattle, to swine, and to poultry they would not for a moment entertain the further belief that apparent disease of this kind is simply due to the so-called lyssophobia, or, in other words, to nervousness and imagination. Certainly, no man will ascribe very much imagination of mind in this direction to hens, swine, horses, and dogs.

Most of the communicable diseases are now, and have been for some time, made the subject of careful experimental research in laboratories conducted by men who have made a life study of the etiology and pathology of diseases that are known to be communicable, or thought to be, by infection or contagion. All of them agree as to the existence and methods of extension of rabies. Certainly, the testimony of any one of them is worth infinitely more than hearsay or presumptive evidence, which is the only kind that can be offered in controversy of the existence and communicableness of this most distressing disorder.

Before answering your questions categorically, I should like to relate shortly an instance or two, in point, which happened in my own experiences during the various outbreaks of rabies among dogs, in Boston and its vicinity, of which I have knowledge. I will add, further, that the original dogs in all of these instances have been proved, in one or other of the pathological departments of this university, to have been rabid, or, at any rate, to have had in them the germs of a disease which, after being inoculated, have produced the constantly certain and absolute train of symptoms which are described and recognized under the name of rabies by all capable persons who have dispassionately inquired into the attending facts. During an outbreak of rabies, which had been recognized as being present in Boston for a number of weeks previous to this episode, there suddenly appeared in Harvard Square, Cambridge, one morning about 9 o'clock, a large crossbred Newfoundland dog. He entered

a butcher's shop, the door of which was open, and behaved in a way that induced the butcher to give him a bone, and tell him to go out on the street. He seized the bone and went. After apparently eating from the bone, or, at any rate, biting at it for a short time (this I have from the butcher), he got up and looked about. There were several dogs and several horse-car horses standing in the square. He went, one after the other, to five of these dogs and bit them all. He then went to one of the horses and bit him rather severely in the upper lip. All five of these dogs came under my future care; three of them died, showing all of the symptoms recognized and described in the books as being rabies. The horse was taken to his stable, which happened to be near, in which there was a blacksmith shop. An iron was heated and probably within thirty minutes after the bite had been inflicted the bitten parts in the horse had been seared. Notwithstanding this, this animal was seized with the symptoms recognized and described as being those of rabies.

During a subsequent outbreak which had been discovered and located by the then cattle commission of the State, of which I was at the time secretary, as being present in several of the near towns to the eastward of Boston, a large dog, of no particular breed, suddenly appeared one morning about 3 o'clock to a policeman, Officer Doe, in one of the streets in Lynn, a town situated some 7 or 8 miles away from the towns that were until that time thought to cover the infected area, and bit him rather severely. After the policeman was bitten others discussed with him the probability of the dog being mad and advised him to go to the Pasteur Institute in New York for preventive treatment. He laughed at the matter, said that he was not afraid, and that he would take his chances. Within a short time thereafter he was taken ill with symptoms that were recognized by the local medical men as being those of hydrophobia, and he died after dreadful suffering. During the time in which he was ill he was nursed by several of his brother policemen, one of whom received a contusion from the teeth of the sick man, which broke the skin. This man was very much frightened and went immediately to the Pasteur Institute in New York and was given the preventive treatment. Nothing of hydrophobia was ever shown by him. More minute facts regarding this case can be ascertained by you by addressing Thomas N. Burkes, city marshal, Lynn, Mass., and of the medical side of it by writing to the chairman of the board of health there.

I could, if it were necessary, duplicate episodes of this sort in great variety and number, but I think sufficient has been said to show to the unbiased mind that a specific, communicable disease, to which the name of rabies has been given, undoubtedly exists.

In answer to the questions contained in your letter, I will reply—

First. This school does teach that there is such a disease as rabies in dogs, and it has, at periods during the last fifteen years, exhibited to its students a considerable number of animals so affected.

Second. The above also answers the second question.

Third. Records of the number of cases of rabies that have been in the hospital in connection with this school are in existence; but in order to get at their number absolutely, a long search would have to be made through records extending over a period of some sixteen years, or possibly somewhat longer than that. I do not like to undertake this work, but will do so if an absolute answer to your third question is necessary for your purposes. I should say that there have been some twenty-five or thirty such animals here during the last eighteen years. Of course, they come in at more or less long intervals of time, and only when an outbreak is present with us.

Fourth. I do not know of the existence, at this time, of any cases of rabies in this neighborhood, either among animals or men; but in the past I have seen numerous instances in which the disease has been present in men that had been, within a short time before, bitten by dogs, the clinical symptoms of which indicated the presence of rabies, and the clinical diagnoses in which were substantiated by properly conducted pathological examinations.

[From Prof. Leonard Pearson, dean of the veterinary department of the University of Pennsylvania.]

DEPARTMENT OF VETERINARY MEDICINE,
PHILADELPHIA, *April 6, 1900.*

DEAR DOCTOR: I beg to acknowledge the receipt of your favor of the 30th ultimo in regard to rabies of dogs. I beg to reply to your questions as follows:

First. Of course, this school teaches there is such a disease as rabies.

Second. A great many cases of rabies have been brought to the hospital connected with this school. I can not tell you without looking over a great many records just how many cases of rabies have been brought to the hospital, but I would say that the number varies considerably. Sometimes for long periods one or two cases are brought each week and at other times we may not see a rabid dog at the hospital for a month or two. I should estimate that during the fourteen years' existence of the school from three hundred to four hundred unquestionable cases of rabies have been received in the hospital.

Fourth. I know of several cases of rabies in man that have occurred in Pennsylvania and the diagnoses in some of these cases have been confirmed by the inoculation of animals with pieces of the brain. During the last year there have been two fatal cases in Lancaster, one in Kennett Square, one in Philadelphia, and one in Allegheny. Three years ago one of the prominent veterinarians of Pennsylvania died of rabies following the bite of a rabid dog.

There has been a great deal of rabies among the farm animals in different parts of the State. Cattle, swine, sheep, and horses have developed rabies of the furious form after having been bitten by a mad dog. A great many of these cases have been examined very carefully and the diagnoses have been sustained by the results of laboratory examination.

[From Dr. J. M. Wright, professor of pathology and cattle practice, McKillip Veterinary College.]

CHICAGO, *April 5, 1900.*

DEAR DOCTOR: In answer to your letter No. 2001 I will say that rabies in the dog and horse is of common occurrence here. I believe I am safe in stating that during the last year I have handled twenty cases, which is a fair yearly average.

Since January 1, 1900, my attention has been called to eleven cases in the dog and three in the horse.

In reply to questions:

No. 1. Yes.

No. 2. Yes.

No. 3. No record has been kept.

No. 4. None have come under my personal observation, but I have knowledge of several.

[From Dr. A. H. Baker, professor of theory and practice, Chicago Veterinary College.]

CHICAGO, *April 6, 1900.*

DEAR DOCTOR: Your favor of the 3d instant, asking for answers to four questions in regard to rabies, is received. In reply I would answer the same as follows:

First. Our school unequivocally teaches the existence of rabies.

Second. Many cases of rabies in dogs and horses have been brought here.

Third. We have kept no record of the number of cases, but I can safely say that during the last year just passed we have had at least ten cases in horses and fifty in dogs.

Fourth. I have never seen a case of rabies in man, and only know of its existence from hearsay.

I may add that we are sincere believers in the Pasteur preventive treatment for rabies in man, and send numerous cases to our local Pasteur institute for such treatment.

[From Dr. S. Stewart, secretary and dean of the Kansas City Veterinary College.]

KANSAS CITY, MO., *April 10, 1900.*

DEAR SIR: In reply to your inquiry No. 2001:

First. The Kansas City Veterinary College teaches positively that there is a disease called rabies.

Second. Cases of rabies have been brought to the college hospital, and have been observed in the out-practice connected therewith.

Third. Eleven or twelve cases have been brought to the hospital during the past three years; five within one year.

Fourth. No cases of rabies in man have come under my personal observation. Four or more authentic cases have occurred in this city in past five years.

Typical, well-marked cases in dogs, horses, cattle, and swine have come under my personal observation.

Since the above was in type an instance has occurred which shows only too clearly the number of human lives that may be jeopardized and the amount of damage that may be done by a single rabid dog. The case referred to was that of a dog killed at Bethesda, Md., near the experiment station of this Bureau. The body was taken to the experiment station, and later was brought to the Bureau laboratory for examination. Some of the facts relative to the movements of the dog were known to the superintendent of the experiment station, but by the courtesy of the Health Department of the District of Columbia I am able to present a connected history of the greater part of the wanderings of the dog from the time he left his home. The investigation was made by Mr. H. W. Barker, sanitary inspector, who spent several days in tracing the matter and in interviewing people who saw the dog at the various places mentioned.

This dog belonged to George W. Offutt and escaped from the premises 3416 M street NW., Friday, April 27. He had been chained in the back yard, but broke away about 11 o'clock. There was another dog chained in the same yard, which may or may not have been bitten. The rabid dog was next heard from at 1723 Thirty-fourth street, where he entered the premises of Mrs. Dora Smith. She drove him out, but as he reached the street he caught her son by the coat. The boy slipped out of his coat and was not bitten. The dog then attacked John Tyler, Thirty-seventh street extended, tore his coat, but did not bite him. He then went to the yard of Mr. Freeman, 2319 Thirty-second street NW., where there was another dog, which was reported

as not bitten. He was next seen going up Thirty-second street by the laborers on the railroad, all of whom fortunately escaped being bitten.

Between Thirty-second and Thirty-fourth streets NW. he attacked Mrs. Offley, of 3129 U street NW., and her baby, endeavoring to bite the baby on the hand and on the arm. He left saliva and blood on the hand and coat of the baby, but did not apparently break the skin.

The next person attacked was Miss Edith L. Cox, 2511 Wisconsin avenue NW., who very narrowly escaped being bitten.

Andrew Ellis, of 2213 Twelfth street NW., was not so fortunate, and was bitten in the hand. The animal was next encountered and chased by several conductors and motormen near the car barn on Thirty-second street, but these men fortunately escaped injury. The next person attacked was Jesse Battle, who is employed on the premises of Edward Brooke, on Wisconsin avenue. Mr. Battle had a struggle with the dog, during which he slipped and fell, rolling down a terrace, when the dog lost sight of him. A horse belonging to Mr. Brooke was seized by the nose and held so tenaciously that he was thrown twice before he succeeded in freeing himself from the vicious brute. This horse has since been sent to the experiment station of this Bureau at Bethesda.

From Mr. Brooke's premises he went on the Tunlaw road, where he attacked Annie Clay, Albert Norwood, and William Plowden, all of whom escaped without being bitten. On the Grant road, near Wisconsin avenue, he bit a dog belonging to Marion Walker and another belonging to Thomas Hurdle.

At Reno he bit a horse belonging to Mr. Campbell. At the same place he bit a child named Lucy Rhodes and a dog belonging to Sam Dixon. From Reno he went to Chevy Chase, Md., where he attacked a boy named Irving Towers and a young lady living in the neighborhood. The clothing of both was torn and the boy was bruised, but fortunately the flesh was not punctured in either case. In this neighborhood he also bit one or more dogs belonging to Harry Wolford, of Connecticut avenue. This dog was next heard of at Bethesda, where it bit dogs belonging to Mrs. Worthmiller and Mrs. Councilman, and then entered the premises of William E. and L. Leroy Lochte, biting three dogs and viciously attacking one of these men, but fortunately the other, seeing the danger of the person attacked, shot the dog and disabled him, after which he was killed. All of this occurred within about two hours from the time the dog escaped from his home. Several of the persons attacked by this dog appear to have escaped almost miraculously from being bitten, and it seems probable that the dog was already suffering from partial paralysis, interfering somewhat with the movement of his jaw.

This raises the number of persons bitten during the present outbreak of rabies in the District of Columbia to 18 children and 6 adults, or 24 in all.

Finally, it may be added that the so-called mysterious disease, from which 18 head of cattle recently died out of the herd belonging to the Government Hospital for the Insane, was undoubtedly rabies. The writer diagnosed rabies when the first post-mortem examinations were made, but preferred to withhold his decision until all possibility of error had been removed by laboratory tests. These tests have now been completed and the results are conclusive.